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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/604,798

08/18/2003

Ching-Sung Yang

EMEP0010USA

1797

27765

7590

08/16/2004

NAIPO (NORTH AMERICA INTERNATIONAL PATENT OFFICE)

P.O. BOX 506

MERRIFIELD, VA 22116

EXAMINER

YOHA, CONNIE C

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 08/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/604,798

Applicant(s)

YANG ET AL.

Examiner

Connie C. Yoha

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.


## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

  
CONNIE C. YOHA  
PRIMARY EXAMINER

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 8/03, 9/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This office acknowledges receipt of the following items from the Applicant:  
  
Papers submitted under 35 U.S.C. 119(a)-(d) have been placed of record in the file.  
  
Information Disclosure Statement (IDS) filed on 8/18/03 and 9/5/03 were considered.
2. Claims 1-8 are presented for examination.
3. Claims 6-8 are canceled.
4. Claims 1-5 are pending.

### ***Specification***

#### **Title**

5. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed

### ***Claim Rejections - 35 USC § 112***

6. Claim 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

There is insufficient antecedent basis for the limitations.

In claim 1 recite the limitation "said first conductive region" on line 7.

Claims 2-5 are rejected due to the rejections of the parent claim.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Chang, Pat. No. 5761121.

With regard to claim 1, Chang discloses an erasable programmable read only memory that omits a control gate comprising: a doped region (fig. 3A, 12) formed by ion implantation in a substrate (fig. 3A, 14); a first conductive area (fig. 3A, 32) covered on said substrate (fig. 3A, 14) and forms a first cross structure with a first overlap area to acts as a select transistor gate (fig. 3A, 28) and connected to a select gate voltage; a second conductive region (fig. 3A, 30) located at a side of said first conductive region (fig. 3A, 32) and on said substrate (fig. 3A, 14) and forms a second cross structure with a second overlap area to acts as a floating gate (fig. 3A, 26); wherein a feature of the erasable programmable read only memory is that a control gate is omitted, thereby reducing device size and integratable with CMOS process (col. 3, line 6-39).

With regard to claim 2, Chang discloses wherein during a mode for writing "digital one", a selected word line is grounded and a unselected word line is bias to about a first voltage (table 1, program mode, select gate voltage); wherein a selected bit line is grounded, a unselected bit line is about said first voltage (table 1, program mode, Bit

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Line voltage); a source node and a N well are connected to said first voltage (table 1, program mode, Source and N-well voltages), thereby turning on said selected transistor and injecting hot channel carrier onto said floating gate of the second p-type metal-oxide semiconductor (col. 3, line 40-60) (also with regard to claim 3).

With regard to claim 4, Chang discloses wherein during read mode, a selected word line is grounded and unselected word line is biased to a third voltages (table 1, read mode, Select Gate voltage); a selected bit line is about a forth voltage, a unselected bit line is bias to said third voltage voltage (table 1, read mode, Bit Line voltage), a source node is also bias to said third voltage (table 1, read mode, Vcc) and a N well is connected to said third voltage (table 1, read mode, Vcc), thereby turning on said selected transistor for reading the status stored in said floating gate (col. 4, line 11-24).

With regard to claim 5, Chang discloses wherein a cell array, an unselect transistor does not suffer a drain disturbance because said unselect transistor is at off-state and the electric field between said bit line and said floating gate is not strong enough to inject/generate hot carriers, a coupling of said floating gate is not induced by the word line, thereby eliminating the gate disturbance phenomenon (col. 13, line 27-56).

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. Hung et al (6653183) and Wong (5872732) disclose a nonvolatile memory device.
9. When responding to the office action, Applicants' are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist the examiner to locate the appropriate paragraphs.
10. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the date of this letter. Failure to respond within the period for response will cause the application to become abandoned (see MPEP 710.02 (b)).
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to whose telephone number is (571) 272-1799. The examiner can normally be reached on Mon. - Fri. from 8:00 A.M. to 5:30 PM. The examiner's supervisor, David Nelms, can be reached at (571) 272-1787. The fax phone number for this Group is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-0956.
12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov> Should

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you have questions on access to the Private Pair system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**C. Yoha**

August 2004



**CONNIE C. YOH**  
**PRIMARY EXAMINER**